

AMENDMENTS TO THE DRAWINGS

A replacement formal drawing for Fig. 25 has been filed concurrently.

REMARKS

In view of the above amendments and following remarks, reconsideration and further examination are requested.

Initially, the title has been changed to -- METHOD FOR DETERMINING WHETHER OR NOT A COMPONENT HOLDER IS DEFECTIVE, AND METHOD FOR MOUNTING AN ELECTRONIC COMPONENT--.

A replacement formal drawing has been provided for Fig. 25 so as to designate this figure as --Prior Art--.

The specification and abstract have been reviewed and revised to make editorial changes thereto and generally improve the form thereof, and a substitute specification and abstract are provided. No new matter has been added by the substitute specification and abstract.

Claims 1-25 have been canceled, and new claims 26-45 have been added. New claims 26-45 have been drafted taking into account the 35 U.S.C. § 112, second paragraph, issues raised by the Examiner, are believed to be free of these issues, and are otherwise believed to be in compliance with 35 U.S.C. § 112, second paragraph.

The instant invention pertains to a method for determining whether or not a component holder is defective, and to a method for mounting an electronic component. Such methods are generally known in the art, but suffer from drawbacks as expressed on pages 1-3 of the original specification. Applicants have addressed and resolved these drawbacks by providing a unique method for determining whether a component holder is defective.

Specifically, with reference to Figs. 14 and 15, for example, the inventive method comprises: illuminating a component hold face of a component holder by emitting light to the component holder, with the component hold face having an area greater than a light reflection face of a component held by the component holder; performing image-pickup of the component hold face, when illuminated by emitting the light to the component holder, so as to provide image-pickup information of the component hold face; and determining that the component holder is defective when luminance of a non-cover region of the component hold face, based on

the image-pickup information, is not smaller than a setting value, wherein the non-cover region (607) corresponds to a region of the component hold face other than a region of the component hold face covered by the component (601).

New claim 26 is believed to be representative of Applicants' inventive method for determining whether or not a component holder is defective, and new claim 30 is believed to be representative of Applicants' inventive method of mounting a component onto a circuit board while employing the method as recited in claim 26.

Claims 7-12 and 23-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over any of Kawai et al., JP '690 and Muraoka et al. These rejections are respectfully traversed, and the relied upon references are not applicable with regard to the currently presented claims for the following reasons.

Each of independent claims 26 and 30 requires an operation for determining whether or not a component holder is defective, which operation comprises

illuminating a component hold face of a component holder by emitting light to said component holder, said component hold face having an area greater than an area of a light reflection face of a component held by said component holder, wherein said component hold face corresponds to a surface of said component holder that faces a surface of said component held by said component holder, and wherein said light reflection face corresponds to a surface of said component other than said surface of said component that faces said component hold face,

performing image-pickup of said component hold face, when illuminated by emitting the light to said component holder, so as to provide image-pickup information of said component hold face when illuminated by emitting the light to said component holder, and

determining that said component holder is defective when luminance of a non-cover region of said component hold face, based on said image-pickup information, is not smaller than a setting value, wherein said non-cover region corresponds to a region of said component hold face other than a region of said component hold face covered by said component.

Thus, each independent claim requires that the component holder is determined to be defective when a luminance of a non-cover region of the component hold face is not smaller than a setting value. Accordingly, these claims allow for a real defect of the component hold face to be detected because a defect of a region of the component hold face, other than a region covered by the component, is detected. That is, avoided can be a false determination that the component hold face has a contamination when luminance of the component, when held by the component holder, is not smaller than a setting value.

The references relied upon by the Examiner fail to teach or suggest the concept of using luminance of a non-cover region to determine whether a component holder is defective. Indeed, in each of the relied-upon references the area of a component hold face, of a component holder, appears to be less than the area of a corresponding face of a component held by the component holder. Please see Fig. 2 of JP '690, Fig. 5 of Kawai et al., and Fig. 4 of Muraoka et al. Thus, the "non-cover" region as required by each of claims 26 and 30 is lacking from these references, whereby it logically follows that also lacking from these references is any suggestion of using luminance of a non-cover region to determine whether a component holder is defective.

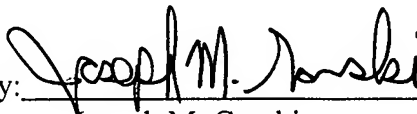
Accordingly, each of claims 26 and claim 30 is allowable over the relied-upon references either taken alone or in combination, whereby claims 26-45 are allowable.

In view of the above amendments and remarks, it is respectfully submitted that the present application is in condition for allowance and an early Notice of Allowance is earnestly solicited.

If after reviewing this Amendment, the Examiner believes that any issues remain which must be resolved before the application can be passed to issue, the Examiner is invited to contact the Applicants' undersigned representative by telephone to resolve such issues.

Respectfully submitted,

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